REMARKS

The Office Action dated May 13, 2005, has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 2, 10, 17 and 21-23 are amended to more particularly point out and distinctly claim the subject matter of the invention. No new matter is added, and no further consideration and/or search is required. Thus, claims 2-23 are pending in the present application, and respectfully are submitted for consideration.

Claims 2-23 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 5,404,544 (*Crayford*) in view of U.S. Patent No. 6,198,727 (*Wakeley et al.*). The Office Action took the position that *Crayford* taught all the features of the claims except specifying extension of the IEEE 802.3 standard for interoperability in the local area network. The Office Action then alleged that *Wakeley* taught those features of the claims missing from *Crayford*. Applicant respectfully submits that the cited references of *Crayford* and *Wakeley*, either alone or in combination, fail to disclose or suggest all the features of any of the presently pending claims.

Claim 2, upon which claims 3-9 are dependent, recites a transceiver circuit for transmitting and receiving industry-standard data signals. The transceiver circuit includes a transmitter subcircuit transmitting a pulse during a power-down mode to indicate a status. The pulse does not conform to an industry-standard pulse for indicating

a power-on status. The transceiver circuit also includes a receiver subcircuit. The transmitter subcircuit and the receiver subcircuit each has its own power supply and means for activation and deactivation on the transceiver. When the transmitter subcircuit is in a power-on mode, the transmitter subcircuit transmits the industry-standard pulse for indicating the power-on status.

Claim 10, upon which claims 11-16 are dependent, recites a transceiver circuit for transmitting and receiving industry-standard data signals. The transceiver circuit includes a transmitter subcircuit transmitting a pulse during a power-on mode to indicate a status. The pulse does not conform to an industry-standard pulse for indicating a power-on status. The transceiver circuit also includes a receiver subcircuit having a media independent interface for receiving data. The receiver subcircuit remains power-on during the power-down mode. The transmitter subcircuit and receiver subcircuit each has its own power supply and means for activation and deactivation on the transceiver circuit. When the transmitter subcircuit is in a power-on mode, the transmitter subcircuit transmits the industry-standard pulse for indicating the power-on status.

Claim 17, upon which claims 18-20 are dependent, recites a transceiver circuit for transmitting and receiving industry-standard data signals. The transceiver circuit includes a transmitter subcircuit transmitting a minimally powered link pulse during a powered-down mode to indicate status. The pulse does not conform to an industry-standard pulse for indicating a power-on status. The transceiver circuit also includes a receiver subcircuit having a media independent interface for receiving data. The receiver

subcircuit remains power-on during the powered-down mode and upon receiving signal activity, activates the transceiver into a power-on mode. The transmitter subcircuit and the receiver subcircuit each has its own power supply and means for activation and deactivation on the transceiver circuit. When the transmitter subcircuit is in the power-on mode, the transmitter subcircuit transmits the industry-standard pulse for indicating the power-on status.

Claim 21 recites a transceiver circuit for transmitting and receiving industry-standard data signals. The transceiver subcircuit includes transmitter subcircuit means for transmitting a pulse during a powered-down mode to indicate a status. The pulse does not conform to an industry-standard pulse for indicating a power-on status. The transceiver circuit also includes receiver subcircuit means for receiving data. The transmitter subcircuit means and the receiver subcircuit means each has its own power supply and means for activation and deactivation on the transceiver circuit. When the transmitter subcircuit is in a power-on mode, the transmitter subcircuit transmits the industry-standard pulse for indicating the power-on status.

Claim 22 recites a transceiver circuit for transmitting and receiving industry-standard data signals. The transceiver circuit includes transmitter subcircuit means for transmitting a pulse during a powered-down mode to indicate a status. The pulse does not conform to an industry-standard pulse for indicating a power-on status. The transceiver circuit also includes receiver subcircuit means for having a media independent interface for receiving data. The receiver subcircuit remains power-on

during the powered-down mode. The transmitter subcircuit means and the receiver subcircuit means each has its own power supply and means for activation and deactivation on the transceiver circuit. When the transmitter subcircuit is in a power-on mode, the transmitter subcircuit transmits the industry-standard pulse for indicating the power-on status.

Claim 23 recites a transceiver circuit for transmitting and receiving industry-standard data signals. The transceiver circuit includes a transmitter subcircuit means for transmitting a minimally powered link pulse during a powered-down mode to indicate a status. The pulse does not conform to an industry-standard pulse for indicating a power-on status. The transceiver circuit also includes a receiver subcircuit means having a media independent interface for receiving data. The receiver subcircuit means remains power-on during powered-down mode and upon receiving signal activity activates the transceiver into a power-on mode. The transmitter subcircuit means and the receiver subcircuit means each has its own power supply and means for activation and deactivation on the transceiver. When the transmitter subcircuit is in the power-on mode, the transmitter subcircuit transmits the industry-standard pulse for indicating the power-on status.

As discussed in the specification, examples of the present invention enable the minimizing of power consumption during an idle period. The power consumption of the transceiver circuit may be reduced by providing each defined subcircuit with its own power supply and means of activation and deactivation. A normal link pulse may be used

rather than the MLT3 signal type to indicate a status for a live connection for transceiver circuits. Because the MLT3 signal type consumes more power than a normal link pulse, the energy may be reduced that is needed to indicate that the transceiver is alive and available in a power-down mode. Applicant respectfully submits that the cited references of *Crayford* and *Wakeley*, either alone or in combination, fail to disclose or suggest all the elements of any of the presently pending claims. Therefore, *Crayford* and *Wakeley* fail to provide the critical and unobvious advantages discussed above.

Crayford relates to a system for periodically transmitting signals to and from a sleeping mode identifying its existence to a network and awakening the sleeping mode in response to received instructions. During a link good condition of *Crayford*, a transceiver outputs a link status signal. A media access controller (MAC) 30 uses the link status signal to provide power management. By using a programmable AWAKE bit, the receiver section of the transceiver remains powered, even if the SLEEP input to MAC 30 is activated. Detection by MAC 30 of link beat pulses 60 produced by transceiver 37 and transceiver 37a are used to establish that a link in the network is in place. Thus, the health of the communication link can be permanently monitored. By using the AWAKE bit, the receiver section of transceiver 37 can remain powered even if a sleep input to MAC 30 is activated. If the link status output is active, then a computer is connected to an active network and it is likely that the operating system will allow MAC 30 to remain powered. If the link status output becomes inactive, then the system can assume that the link is inactive, and MAC 30 can be powered down to save power. If, at a later time, the

link is reestablished, MAC 30 can be powered back up to take advantage of the communications channel.

Wakeley relates to a method and apparatus for providing 10BASE-T/100BASE-TX link assurance. *Wakeley* describes a link device that establishes links to partners regardless of their capability without the need to select a mode of operation manually. *Wakeley* describes an algorithm that assures linkability between those devices that are not 100% compliant with IEEE 802.3. Using this algorithm, *Wakeley* describes a link device linking with legacy partners. Thus, a link assurance firmware algorithm allows a plug-and-play-like interoperability between any combinations of devices, regardless of the differences in the capabilities. Referring to steps 104 and 106 in Figure 2 of *Wakeley*, the transmitter output is turned off or on according to the firmware algorithm.

Applicant submits that *Crayford* and *Wakeley*, either alone or in combination, fail to disclose or suggest all the features of any of the presently pending claims. For example, applicant submits that *Crayford* and *Wakeley* fail to disclose or suggest the transmitter subcircuit and the receiver subcircuit each having its own power supply and means for activation and deactivation on the transceiver circuit. In the response to applicant's previous arguments, the Office Action states, on page 2, lines 12-14, that *Crayford* teaches "to indicate a status of the link being in place (column 3 lines 44-51) in a sleep mode (in which the transmitter powers down, column 2 lines 18-22) wherein the transmitter or the receiver is powered separately (columns 4 lines 24-27) as cited in the claims." Referring to Figure 3 of *Crayford*, the receive section of transceiver 37 can

remain powered, even if the SLEEP input to MAC 30 is activated. Applicant notes that MAC 30 is not within transceiver 37. Further, *Crayford* describes MAC 30 as being powered down while receiving the link status signal, while transceiver 37 remains powered. Because the powered-down mode of the receiver described in *Crayford* is not on transceiver 37, applicant submits that the separate power supply and means for activation and deactivation for the receiver also are not on transceiver 37.

Applicant also submits that *Wakeley* fails to disclose or suggest those features of claims 2-23 missing from *Crayford*. The Office Action states that *Wakeley* teaches "the transmitter and receiver powered separately." Referring to Figure 2 of *Wakeley*, step 104 describes the firmware exiting a link assurance algorithm and assuming normal operation if a link is established. If a link is not established, *Wakeley* describes the firmware turning off the transmitter output of the physical layer device for an interval in step 106. Applicant submits that neither step 104 nor 106 of *Wakeley* turns on or off a receiver subcircuit. Thus, *Wakeley* fails to disclose or suggest a transceiver circuit having a transmitter subcircuit and a receiver subcircuit that are powered separately. Instead, *Wakeley* describes only the transmitter output being turned off for an interval if a link is not established. Thus, applicant submits that *Wakeley* fails to disclose or suggest those features of claims 2-23 missing from *Crayford*.

In contrast, claims 2, 10 and 17 recite "wherein said transmitter subcircuit and said receiver subcircuit each have its own power supply and means for activation and deactivation on the transceiver circuit." Claims 21, 22 and 23 recite "wherein said

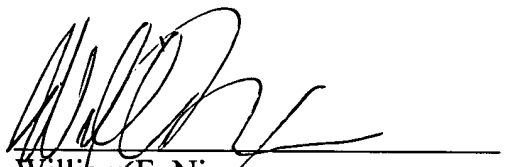
transmitter subcircuit means and said receiver subcircuit means each have its own power supply and means for activation and deactivation on the transceiver circuit." Applicant respectfully submits, based on the reasons given above, that *Crayford* and *Wakeley*, either alone or in combination, fail to disclose or suggest at least these features of any of the presently pending claims.

The remaining dependent claims also are not disclosed or suggested by the cited references for at least the reasons given above, and because they recite additional subject matter that is not disclosed or suggested by the cited references. For at least these reasons, applicant submits that all of claims 2-23 are not disclosed or suggested by *Crayford* and *Wakeley*, and respectfully requests that the obviousness rejection be withdrawn. It is therefore respectfully requested that all of claims 2-23 be allowed, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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